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ABSTRACT

This study investigated the kinds of training conducted in Japanese companies and the degree to which instructional systems design (ISD) is implemented. A random sample of 12 Japanese companies in the banking, automobile manufacturing, electrical machinery, wholesale stores, insurance and securities, and transportation industries were surveyed; a response rate of 37.5% was obtained. Data were collected on the relative frequency of off-the-job and on-the-job training for several training objectives; methods used for technical and interpersonal skills; where training programs are developed (i.e., in-house or outside the company); who develops and delivers training; use of ISD models; procedures for determining training needs and content; how training is evaluated; and approach to improving training effectiveness. Results indicated that the majority of the companies use a general systems approach to problem solving with some similarity to the ISD model. Differences between U.S. and Japanese corporations in terms of organizational structure and implications for the introduction of ISD are discussed. (MES)

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Training in Japan: The Use of Instructional Systems Design¹

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Introduction

Instructional systems design (ISD) or the systems approach is being used in the training in the U.S. to an increasing degree, and it is generally successful. However, it is not well-known as to whether this approach is applied in the other countries. One major issue in ISD is its applicability to different contexts, particularly to different countries. Each country has its own approaches and ideas regarding training. There may be situations where ISD is effective, and ones where it does not quite fit, at least not without modification of the ways in which it is generally represented in the literature of the U.S.A. and Europe. Before discussing the effectiveness of ISD and implementing it, an essential step is to understand the context where the training is taking place.

In Japan, the terms "ISD" and "the systems approach" are not found in the field of training. However, this does not mean that the concepts and processes or ISD are not being used. It is possible that certain elements of ISD are being implemented without being identified as such. It will be useful to have a detailed description of what approach is being used in training as well as an overall picture of the training in Japan. This research will help us to understand the current use of ISD, or elements of it, and the possibility of its future use.

Research Questions

The purpose of this research is to obtain a picture of approaches to training in Japan, focusing on its use of ISD. This will serve to assist in answering two questions: "What kind of training is conducted in Japanese companies?" and "To what degree is ISD implemented?" This will provide both practitioners and researchers with valuable information regarding current practices and future potential for ISD.

Method of the Research

The survey method was selected as the most appropriate for the purpose of the research, because it enables the researchers to cover a larger sample than any other method. As for sampling strategy, stratified random sampling was employed to ensure obtaining a sufficient sample within different industries. Six major industries were chosen because their counterparts in the U.S. tend to have strong internal training departments: banks, auto manufacturing, electric machinery, wholesale stores,

¹This paper, which was used as a handout, is a synopsis of the full-length paper.

insurance and securities, and transportation. The researchers selected 121 companies from about 300 companies in the six industries which were listed in the First Section of the stock exchange in Japan in 1990. Before administering to 121 companies, the questionnaire was pilot tested in two Japanese companies and revised. The study was conducted in July and August, 1991.

Results of the Research

Forty-five companies out of 121 responded (6 out of 20 in banks, 7 out of 20 in auto manufacturing, 11 out of 21 in electric machinery, 8 out of 20 in wholesale stores, 6 out of 20 in insurance and securities, and 7 out of 20 in transportation). Hence, the response rate was 37.5%

The first question was, "Considering all of your employees, when does your company use education and training done off the job (off-JT) more frequently than education and training done on the job (OJT)?" Off-JT refers to training that is offered internally by the company at a training location and requires the employee to leave the work site while attending training. Table 1 indicates the relative use of off-JT and OJT. Through the industries, off-JT is more often used than OJT for orientation of new employees. Half of the companies (22 out of 44) use off-JT more often than OJT as a means of employees' self-development. As for training directly related to the present job, the tendency to use OJT is strong.

Table 1--Companies using off-JT more frequently than OJT for each training objective

Training objective	# of companies (n=44)	Percent
Orientation of new employees	28	64%
Providing employees with an opportunity for self-development	22	50%
Helping employees qualify for future jobs within the organization	19	43%
Helping employees perform their present job well	16	36%
Informing employees of technical and procedural changes	8	18%

The next question was, "Which method or material does your company use most frequently each for technical skills and interpersonal skills? Place a 1 after the most frequently used approach, then indicate the 2nd and 3rd most frequent approach." As a whole, the most frequently used training methods for technical skills are practical training, lecture, and group discussion in that order (Table 2). This is true across the industries, except for wholesales where group discussion and role play / case study are the two more frequently used. A different tendency is found in training methods for interpersonal skills where role play / case study, group discussion, and practical training are the most frequently employed. This is true in each industry, except for transportation where lecture occupies the third place.

Table 2 — Frequency in the use of training methods
(3 points for most frequent, 2 for the next, 1 for the next)

Training Method	Technical		Inter-personal		Total
Group discussion	32	(3)	68	(2)	100
Practical training	55	(1)	42	(3)	97
Lecture	53	(2)	38	(4)	91
Role play / case study	17	(5)	70	(1)	87
A-V media	23	(4)	7	(5)	30
Simulations	6	(6)	6	(6)	12
Correspondance	2	(8)	1	(8)	5
Games	2	(9)	3	(7)	5
Computers	4	(7)	0	(9)	4

Table 3 summarizes the responses to the question, "How does your company obtain training programs?" Developing programs within the company is the most frequent and obtaining training from outside sources is the next frequent way. This tendency is found all through the industries. Forty-one companies out of 44 indicates developing in own company as the most frequent way.

The following questions were asked to companies developing at least some of their own programs. The first question was, "Who develops and delivers your training programs?" Table 4 illustrates that training department plays a central role in both developing and delivering training. Most of the companies indicated that the training department works with either an SME or supervisors. All the companies in banks and transportation stated that the same sections are in charge of development and delivery of training. However, some of the companies in other industries include different

sections for development and delivery (such as SMEs and training department for development and SMEs and supervisors for delivery). The use of SMEs external to the company and that of SMEs internal to the company are about the same in the frequency.

Three examples of the ISD model were

provided with a question, "Does your company have a similar model or use a similar procedure without a written model?" Only two companies indicated that they have a model similar to the ISD model (Table 5). About 70% of the companies identified that they use a similar procedure, but do not have a specific model to follow. This tendency is found across the industries. Among those who are using a different procedure, half of them recognized such a model would be useful in finding out real needs and responding to them in a timely manner or useful as a check list. Those who find that the model does not look helpful pointed out a lack of flexibility.

Table 3 --- Where to develop training programs
(3 points for the most frequent, 2 for the next, 1 for the next)

Where to develop	Points (# of companies = 44)
In own company	127
In affiliate company	28
From outside	80

Table 4 --- Who are in charge of developing and delivering training programs

Who in charge	Develop		Deliver	
	# of companies n=45	Percent	# of companies n=45	Percent
SME (external)	24	53%	27	60%
SME (internal)	25	55%	31	69%
Supervisors	10	22%	15	33%
Training department	40	89%	35	78%
Others	0	0%	1	0%

While some companies use the ISD procedure for all of their training programs, others use the procedure selectively (Table 6). Differences were found among the industries as to which training categories employ the procedure and which do not. For example, in entry level training, less than half of electric companies and the half of

transportation companies use the ISD procedure, while all the banks and wholesales companies use it. For research and engineering, all the companies who conduct such a training use the procedure. The use of the procedure is the lowest in training for entry level workers across the industries, although such a training is identified as the most frequent use of off-JT.

Short answer questions were asked to obtain a closer look at the training situation. The first question was, "How do you decide needs for developing a new program or revising a present program?" Techniques universally identified were questionnaires for previous trainees, interviews with people in relevant levels and sections, and meeting with supervisors or other important people. Among others are breaking down needs from a business plan and collecting information from outside. As for the next question, "How do you determine what the content of a course will be?," almost all the responses indicated that, after finding out needs, the training department

holds a meeting either by itself or joined by a section of target audience. As for the question, "Is there a formal process or tool for the design and development of a training material?," no companies stated that they have such a procedure or tool for training materials. It seems that they develop or revise materials case by case, following the previous example. A few companies indicated that they consult with outside information source such as journals and consultants.

The next question was "How and who conducts training evaluation?" The most popular way of evaluation is a combination of questionnaire for trainees on the training program and interview with their supervisors on their job performance after the training. Some companies ask supervisors to write a report on subordinates who went through a training program.

Various efforts were reported on "What kind of approach do you use for improving the effectiveness of training programs?" Follow-ups (evaluation and/or training), a variety of training methods as well as curriculum, and an extensive needs assessment are the three most identified approaches.

Table 5 — Companies using an ISD model or a similar procedure

Use of ISD procedure	# of companies (n=42)	Percent
Own a model	2	5%
Use a similar procedure	29	69%
Use a different procedure	10	24%

For companies using a different procedure,
does this kind of model look helpful?

Helpful	4	40%
Not helpful	4	40%
No answer	2	20%

Discussion

Much of corporate training and education is made up of OJT, off-JT, and self-development, each of which has its own role. Japanese companies put more emphasis on OJT traditionally; however, this research shows that OJT has established a certain position in large companies. It is used primarily for entry level training and for opportunities for self development.

Table 6 — Use of ISD procedure for each training categories

	Percent (# using ISD procedure /# conducting a particular training)	
Entry level	67%	(20/30)
Production	94%	(15/16)
Clerical work	74%	(14/19)
Sales work	87%	(20/23)
Management skills	90%	(29/31)
Research and engineering	100%	(12/12)

At this stage, it is not clear how effective formally developed training programs are compared to traditional OJT. Since most of the companies in this study stated that developing training programs on their own with the training department as its center is a primary approach for development, how to develop programs is crucial.

The majority of the companies studied identified that they are using a procedure similar to the ISD model. However, a closer look reveals that what they are doing can be called a general systems approach to problem solving, rather than ISD. The companies follow general steps of systems approach to problem solving, but not detailed steps of ISD, when developing training programs.

The fact that systems approach has already been implemented and also general positive reaction toward ISD models suggest that ISD can be introduced successfully, as a specific application of the systems approach to instruction.

Here, special attention should be paid to the possible perception of ISD as inflexible, which possibly comes from the way ISD is generally described (flowchart, step-by-step task list, and the like). It is recommended that ISD be introduced as a general concept of developing instruction, not as a specific procedure to be followed.

Finally, in closing, it is important to note some differences between the United States and Japan in terms of organizational structures that influence the adoption and utilization of ISD in Japan. In Japan, corporations tend to exercise a high degree of proprietary control over training along with their other internal management and manufacturing processes. Consequently, they seldom bring in outside consultants or vendors to develop training although they may bring in outsiders to present off-the-shelf training. Furthermore, there tend not to be working relationships between professors in the universities and business and industry.

These factors limit the likelihood of full scale adoptions of ISD processes and supporting technologies in the near future, but there do appear to be changes

occurring. Professors in some of the leading educational technology programs are conducting innovative research on technology applications in instruction, and are devoting more attention to teaching ISD in their graduate programs. Furthermore, some of them are knowledgeable of the utilization of ISD and technology in education in corporations in the United States. These trends, together with other changes that are occurring in the younger generations of Japanese with regard to their attitudes toward careers, indicate that Japanese will be looking more carefully at training development options that are more efficient than the traditional OJT approaches.